

What Is Claimed Is:

1. A method for depositing a nitride film using a chemical vapor deposition apparatus of single chamber type comprising a process chamber comprising a inlet gas line through which process gases are introduced; a shower head for spraying the introduced process gases; a heater on which a wafer is placed; and a vacuum port for discharging the process gases, the method including:

depositing a first nitride film by performing a first nitride film deposition process while a mixture ratio of the ammonia (NH_3) gas and the silane (SiH_4) gas, which are the process gases, injected in order to first deposit the nitride film is maintained in 100:1 or more; and

depositing a second nitride film on a surface of the first nitride film in-situ by maintaining the mixture ratio of the ammonia gas and the silane gas in 100:1 or less in order to secondly deposit the nitride film, after depositing the first nitride film, such that the nitride film has a larger thickness at the upper region of the nitride film compared to those of the side regions and the lower region thereof.

2. The method as set forth in claim 1, wherein the ammonia gas is maintained in the range between about 50 and 3000 SCCM, and the silane gas is maintained in the range between about 2 and 40 SCCM.

3. The method as set forth in claim 1, wherein a pressure in the chamber is maintained in the range between 10 and 350 torr, and a temperature in the chamber is maintained in the range between 600 and 800°C.

4. The method as set forth in claim 1, wherein a nitrogen (N_2) gas, which is a

fuzzy gas for diluting the silane and ammonia gases, is maintained in the range between about 100 and 10000 SCCM.

5 5. A method for depositing a nitride film using a chemical vapor deposition apparatus of single chamber type comprising a process chamber comprising a inlet gas line for introducing process gases; a shower head for spraying the introduced process gases; a heater on which a wafer is placed; and a vacuum port for discharging the process gases, the method including:

10 maintaining a mixture ratio of the ammonia (NH_3) gas and the silane (SiH_4) gas, which are the process gases injected in order to first deposit the nitride film, in 5:1 or more to 50:1 or less, such that the nitride film is deposited by single process with a larger thickness at the upper region of the nitride film compared to those of the side regions and lower region thereof.